



SEQUENCE LISTING

<110> Pinsky, David

Stern, David

Yan, Shi-Fang

<120> Methods for Suppressing Early Growth Response-1 Protein (Egr-1) to Reduce Vascular Injury in a Subject

<130> 0575/62683

<140> 09/648,389

<141> 2000-08-25

<160> 6

<170> PatentIn version 3.1

<210> 1

<211> 15

<212> DNA

<213> Homo sapiens

<400> 1  
cttggccgct gccat

15

<210> 2

<211> 15

<212> DNA

<213> Homo sapiens

<400> 2  
taccgtcgcc gtgct

15

<210> 3

<211> 543

<212> PRT

<213> Homo sapiens

<400> 3

Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile  
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr  
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe  
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser  
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser  
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro  
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn  
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu  
115 120 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn  
130 135 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly  
 145 150 155 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser  
 165 170 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys  
 180 185 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr  
 195 200 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala  
 210 215 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr  
 225 230 235 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu  
 245 250 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys  
 260 265 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro  
 275 280 285

Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu  
 290 295 300

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg  
 305 310 315 320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg  
 325 330 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser  
 340 345 350

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe  
 355 360 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr  
370 375 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile  
385 390 395 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys  
405 410 415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala  
420 425 430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr  
435 440 445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr  
450 455 460

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser  
465 470 475 480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala  
485 490 495

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser  
500 505 510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu  
515 520 525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys  
530 535 540

<210> 4

<211> 6590

<212> DNA

<213> Homo sapiens

<400> 4

gcgggctggg gctgtggctc acacctggaa tcccagcact ttgggaggcc gaagtgggtg	60
aatcgcttga gctcaagagt tcaagaccag cctgggcaac acagcgaaac ccctctctac	120
gaaaatacaa aaaaaaaaaa aaaaaagtaa aagccaggcg tggtaggcagg cacctgtagt	180
ccaagctact cgagaggagg aggctggagg atcacttgag cctgggaggc ggaggttgca	240
gtgagctcgc gccactgcac tccaacctgg gtgccagcgt gagacccccgt ctcagaaaga	300
ataaaaacat taaaaaaaaa atttggttaa ggtaccctac cagggagtgg caaaatggac	360
attcagacac aaggccatct gcgctgcaac agcctggcct tctgcccctt gcggcaggag	420
tctcttgaga ggcgcatcac tctgccccca atggacaact ccgtagacag tgggagtgag	480
ccccccacct cccagcggga cttgagacgg caggctccga gacgaggagg tcttggttca	540
ttaagttggt ttttataaaa aaacatgttt ggagggggga cagccacaaa gggattaagt	600
ccaagaaagt taccctctcc ccacctaata cccctgacc ccgacctcca gaggtgttg	660
gggtttacag aggcctcac ctctccctt ccctctcggt gtcgtcaaac acctccttc	720
tccacatttc tctttctgct ttctttttta atccagaaaa aacagtacct cctctggatt	780
cagagctaga gcaggaggag ctttcccttc cggaatccct gttccctttg ggggagcaac	840
tgacggttcg tgggggcggg gagggttccc ctttttgttt gacccaagga agactgggga	900
atattttcct tagacaccac ccaccccttt ttctttttcc ccttcacttt gccaggctgg	960
ggttgaggat tggtatcccg gagtttgggc gcttcggaag tgacggttcc ccggggttg	1020
aaggggagcc cgggttaagc gcctgttcag ttcgtgctca tgcgtcgaag gctcccccg	1080
ccttgctccg cgcacagcgc cgcacccggg aggaggagcg aggaggcggc ggaagagccc	1140
gcgcggcccg agtccggggc tgggagtgga gagggaaacct ccagggggca gcaccgagcc	1200
gcaaagcccg tctctcttc gcgccagcc cgggggtccc agatagcca tagggaagcc	1260
cctctttcgg attcccgag tgtgggccc ccctccacct ggactggata aaggggggaa	1320
agtgacctt caccacaagg accattatct cctggtgaga acaagaatca ggcctctctt	1380
ggggcaatca gcttccccac ttcggtcccc caaagggtgg ctctttgccg gcggggacta	1440
gggaacagcc tttcggttcc gggggagcac aggggacccc aggcaccagc agccccatcc	1500
caccgacagg tggcagaggc aaggcagctc actgctatac agtgtcccaa gaaccaagtg	1560
gccgtgactt cctatcctca atttcccagc gacacccgga aagacaccgt gccatagatc	1620
gaggccccgg gtcaaggccc cgcctctctt gggcggcccc tgcccaggcg ggcccagccg	1680

ctcctcccc	gcactccccg	ttcgctctca	cggctccctga	ggtgggcggg	cgggcctgga	1740
tgacagcgat	agaacccccg	cccgactcgc	cctcgcccc	gctctgggtc	tgggcttccc	1800
cagcctagtt	cacgcctagg	agccgcctga	gcagccgcgc	ccagcgccac	acgccacgag	1860
ccctccccgc	ctgggcgctc	ccggatcccc	cgagcgctcg	ggctccccgc	ttggaaccag	1920
ggaggaggga	gggagcgagg	gagcaaccag	ctcggaccgg	aatgcatata	gagcaggaag	1980
gatccccgc	cgaacaacc	cttatttggg	cagcacctta	tttggagtgg	ccgatatgg	2040
cccggcgctt	ccggctctgg	gaggagggaa	gaaggcggag	ggaggggcaa	cgcggaact	2100
ccggagctgc	cggctccgga	ggccccggcg	gcggctagag	ctctaggctt	ccccgaagct	2160
gggcgcctgg	gatgcgggcc	gggcggggcc	ctagggtgca	ggatggaggt	gccgggcgct	2220
gtcggatggg	gggcttcacg	tcaactcggg	tcctcccccg	gtcctgccat	attagggtt	2280
ctgcttccca	tatatgccat	gtacgtcacg	acggaggcgg	accctgccc	ttccagaccc	2340
ttcaaataga	ggcggatccg	gggagtcgcg	agagatccag	ccgcagaact	tggggagccg	2400
ccgcgcgat	ccgcgcgc	agccagcttc	cgccgcgcga	ggaccggccc	ctgccccagc	2460
ctccgcagcc	gcggcgcgtc	cacgcccgc	cgcgccaggg	gcgagtcggg	gtcgcgcgct	2520
gcacgcttct	cagtgttccc	cgcgccccgc	atgtaaccgg	gccaggcccc	cgcaacgggtg	2580
tcccctgcag	ctccagcccc	gggctgcacc	cccccgcccc	gacaccagct	ctccagcctg	2640
ctcgtccagg	atggccgcgg	ccaaggccga	gatgcagctg	atgtccccgc	tgcagatctc	2700
tgacccgttc	ggatccttcc	ctcaactcgcc	caccatggac	aactacccta	agctggagga	2760
gatgatgctg	ctgagcaacg	gggctcccca	gttcctcggc	gccgcggggg	ccccagaggg	2820
cagcggcagc	aacagcagca	gcagcagcag	cgggggcggg	ggaggcggcg	ggggcggcag	2880
caacagcagc	agcagcagca	geaccttcaa	ccctcaggcg	gacacgggcg	agcagcccta	2940
cgagcacctg	accgcaggta	agcagtggcc	tacgccgagg	gggaaccctt	tcgccaccat	3000
cctggcgctc	tgtccttcac	cgcaggagtg	ctcctggatc	ttagaatgag	agccgggttt	3060
ccctttcatt	cctcgcatcc	ccagagtcac	gtgttagagg	gatgccaaag	aacccccacac	3120
agcccccccc	ctgccctcat	ccctagcgga	gcgcagagga	ccgagctttt	gttttggatg	3180
gagagctctg	gagctgcgtg	ggtgggtgga	gggggagggc	ttgttttgat	gagcggggct	3240
gcgcccccac	ctccagtaag	acttgccctg	ccttgcttgc	cgctgtccc	caaggaagga	3300
ccgtgatcct	tggccgtgga	tgtcccggca	gcccgggttt	gggggcgcgc	actagccgcg	3360

gccatggggg	tgctggcggg	aatccctcgc	ccgcacagcc	gccgctgcgg	agcgcctgcga	3420
gctgcagtgg	agggggattc	tccgtatttg	cgctactgtt	gttgaaatgg	gctctgccac	3480
tggtgcgggt	ccaggaacat	tgcaatgtgc	tgctatcaat	tattaactac	ctcgggagtc	3540
aatggtagcc	ggcccggctc	cttgccctggc	agctcgggtc	gtcctcgtcc	tccagtgatt	3600
gttttccagt	aaccaggcct	cccgtttctc	tctctcctgc	cagagtcttt	tcctgacatc	3660
tctctgaaca	acgagaaggt	gctgggtggag	accagttacc	ccagccaaac	cactcgactg	3720
ccccccatca	cctatactgg	ccgcttttcc	ctggagcctg	cacccaacag	tggcaacacc	3780
ttgtggcccg	agccccctct	cagcttggtc	agtggcctag	tgagcatgac	caaccacccg	3840
gcctcctcgt	cctcagcacc	atctccagcg	gcctcctccg	cctccgcctc	ccagagccca	3900
ccctgagct	gcgcagtgcc	atccaacgac	agcagtccca	tttactcagc	ggcaccacc	3960
ttccccacgc	cgaacactga	cattttccct	gagccacaaa	gccaggcctt	ccggggctcg	4020
gcagggacag	cgctccagta	cccgcctcct	gcctaccctg	ccgccaaggg	tggttccag	4080
gttcccatga	tccccgacta	cctggtttcca	cagcagcagg	gggatctggg	cctgggcacc	4140
ccagaccaga	agcccttcca	gggcctggag	agccgcaccc	agcagccttc	gctaaccctt	4200
ctgtctacta	ttaaggcctt	tgccactcag	tcgggctccc	aggacctgaa	ggccctcaat	4260
accagctacc	agtcccagct	catcaaacc	agccgcatgc	gcaagtatcc	caaccggccc	4320
agcaagacgc	ccccccacga	acgcccttac	gcttgcccag	tggagtccctg	tgatcgccgc	4380
ttctcccgct	ccgacgagct	caccgcacc	atccgcatcc	acacaggcca	gaagcccttc	4440
cagtgccgca	tctgcatgog	caacttcagc	cgcagcgacc	acctcaccac	ccacatccgc	4500
accacacag	gcgaaaagcc	cttcgcctgc	gacatctgtg	gaagaaagtt	tgccaggagc	4560
gatgaacgca	agaggcatac	caagatccac	ttgcggcaga	aggacaagaa	agcagacaaa	4620
agtgttgtgg	cctcttcggc	cacctctct	ctctcttctt	accggtcccc	ggttgctacc	4680
tcttaccctg	ccccggttac	tacctcttat	ccatccccgg	ccaccacctc	atacccatcc	4740
cctgtgccca	cctccttctc	ctctcccggc	tcctcgacct	acctatcccc	tgtgcacagt	4800
ggcttcccc	ccccgtcggt	ggccaccacg	tactcctctg	ttccccctgc	tttcccggcc	4860
caggtcagca	gcttcccttc	ctcagctgtc	accaactcct	tcagcgcttc	cacagggtt	4920
tcggacatga	cagcaacctt	ttctcccagg	acaattgaaa	tttgctaaag	ggaaagggga	4980
aagaaagggga	aaagggagaa	aaagaaacac	aagagactta	aaggacagga	ggaggagatg	5040

gccataggag	aggaggggttc	ctcttaggtc	agatggaggt	tctcagagcc	aagtcctccc	5100
tctctactgg	agtggaaggt	ctattggcca	acaatccttt	ctgcccactt	ccccttcccc	5160
aattactatt	ccctttgact	tcagctgcct	gaaacagcca	tgtccaagtt	cttcacctct	5220
atccaaagaa	cttgatttgc	atggattttg	gataaatcat	ttcagtatca	tctccatcat	5280
atgcctgacc	ccttgctccc	ttcaatgcta	gaaaatcgag	ttggcaaat	ggggtttggg	5340
cccctcagag	ccctgccttg	cacccttgta	cagtgtctgt	gccatggatt	tcgtttttct	5400
tgggggtactc	ttgatgtgaa	gataatttgc	atattctatt	gtattatttg	gagtttaggtc	5460
ctcacttggg	ggaaaaaaaa	aaaaaaaaagc	caagcaaacc	aatggtgatc	ctctattttg	5520
tgatgatgct	gtgacaataa	gtttgaacct	ttttttttga	aacagcagtc	ccagtattct	5580
cagagcatgt	gtcagagtgt	tgttccgtta	acctttttgt	aaatactgct	tgaccgtact	5640
ctcacatgtg	gcaaaatatg	gtttgggttt	tctttttttt	ttttgaaagt	gttttttctt	5700
cgtccttttg	gtttaaaaag	tttcacgtct	tggtgccttt	tgtgtgatgc	cccttgcetga	5760
tggcttgaca	tgtgcaattg	tgagggacat	gtcacctct	agccttaagg	ggggcagggg	5820
gtgatgattt	gggggaggct	ttggggagcaa	aataaggaag	agggctgagc	tgagcttcgg	5880
ttctccagaa	tgtaagaaaa	caaaatctaa	aacaaaatct	gaactctcaa	aagtctattt	5940
ttttaactga	aatgtaaat	ttataaatat	attcaggagt	tggaatgttg	tagttacct	6000
ctgagtaggc	ggcgattttt	gtatgttatg	aacatgcagt	tcattatttt	gtggttctat	6060
tttactttgt	acttgtgttt	gcttaaacia	agtgactgtt	tggcttataa	acacattgaa	6120
tgcgctttat	tgcccatggg	atatgtggtg	tatatccttc	caaaaaatta	aaacgaaaat	6180
aaagtagctg	cgattgggta	tgtgtttcct	gggttagggg	aaggactctg	ccctattgag	6240
ggctgtgagg	ttttctgaag	acttggcctt	tagagataca	aggatcctcc	agccagagtc	6300
aggcccactg	tgtgaaactg	gagttcggtta	tttatgagga	ctgagtatgg	gtcttcaaat	6360
agggctctcg	tctatccacc	caggctggag	tgcaagtagt	taatcacagt	tcaactgcagc	6420
tttgggtgtct	caggctcaag	tgatcctccc	acctcagcct	cctgagtagc	tgggactata	6480
ggcacgtgcc	accacactcg	gttaatgttt	atagagacag	ggttttgcca	tgttgcccag	6540
gctggagttc	ttcttgataa	tgggcctggt	cctcttcagt	ctgttgggtg		6590

<210> 5



<211> 543

<212> PRT

<213> Homo sapiens

<400> 5

Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile  
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr  
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe  
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser  
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser  
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro  
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn  
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu  
115 120 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn  
130 135 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly  
145 150 155 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser  
165 170 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys

180	185	190
Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr 195 200 205		
Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala 210 215 220		
Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr 225 230 235 240		
Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu 245 250 255		
Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys 260 265 270		
Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro 275 280 285		
Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu 290 295 300		
Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg 305 310 315 320		
Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg 325 330 335		
Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser 340 345 350		
Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe 355 360 365		
Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr 370 375 380		
Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile 385 390 395 400		

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys  
405 410 415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala  
420 425 430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr  
435 440 445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr  
450 455 460

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser  
465 470 475 480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala  
485 490 495

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser  
500 505 510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu  
515 520 525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys  
530 535 540

<210> 6

<211> 3132

<212> DNA

<213> Homo sapiens

<400> 6  
ccgcagaact tggggagccg ccgccgccat ccgccgccgc agccagcttc cgccgccgca 60  
ggaccggccc ctgccccagc ctccgcagcc gcggcgcgtc caccgcccgc cgcgcccagg 120  
gcgagtcggg gtcgcgcgct gcaagcttct cagtgttccc cgcgccccgc atgtaaccgc 180  
gccaggcccc cgcaacggtg tcccctgcag ctccagcccc gggctgcacc cccccgcccc 240

gacaccagct	ctccagcctg	ctcgtccagg	atggccgcgg	ccaaggccga	gatgcagctg	300
atgtccccgc	tgcagatctc	tgacccgttc	ggatcctttc	ctcactcgcc	caccatggac	360
aactacccta	agctggagga	gatgatgctg	ctgagcaacg	gggctcccca	gttcctcggc	420
gccgccgggg	ccccagaggg	cagcggcagc	aacagcagca	gcagcagcag	cgggggcggt	480
ggaggcgggc	ggggcggcag	caacagcagc	agcagcagca	gcaccttcaa	ccctcaggcg	540
gacacggggc	agcagcccta	cgagcacctg	accgcagagt	cttttcctga	catctctctg	600
aacaacgaga	aggtgctggt	ggagaccagt	taccccagcc	aaaccactcg	actgcccccc	660
atcacctata	ctggccgctt	ttccctggag	cctgcaccca	acagtggcaa	caccttggtg	720
cccagacccc	tcttcagctt	ggtcagtggc	ctagttagca	tgaccaaccc	accggcctcc	780
tcgtcctcag	caccatctcc	agcggcctcc	tccgcctccg	cctcccagag	cccacccctg	840
agctgcgcag	tgccatccaa	cgacagcagt	cccatttact	cagcggcacc	caccttcccc	900
acgccgaaca	ctgacatttt	ccctgagcca	caaagccagg	ccttcccggg	ctcggcaggg	960
acagcgctcc	agtacccgcc	tcctgcctac	cctgcccga	agggtggtt	ccaggttccc	1020
atgatccccg	actacctgtt	tcacagcag	cagggggatc	tgggcctggg	caccccagac	1080
cagaagccct	tccagggcct	ggagagccgc	accagcagc	cttcgctaac	ccctctgtct	1140
actattaagg	cctttgccac	tcagtccggc	tcccaggacc	tgaaggccct	caataccagc	1200
taccagtccc	agctcatcaa	accagccgc	atgcgcaagt	atcccaaccg	gccagcaag	1260
acgccccccc	acgaacgccc	ttacgcttgc	ccagtggagt	cctgtgatcg	ccgcttctcc	1320
cgctccgacg	agctcacccg	ccacatccgc	atccacacag	gccagaagcc	cttcacgtgc	1380
cgcattctga	tgcgcaactt	cagccgcagc	gaccacctca	ccaccacat	ccgcacccac	1440
acaggcgaaa	agcccttcgc	ctgcgacatc	tgtggaagaa	agtttgccag	gagcgatgaa	1500
cgcaagaggc	ataccaagat	ccacttgccg	cagaaggaca	agaaagcaga	caaaagtgtt	1560
gtggcctctt	cggccacctc	ctctctctct	tcctaccgt	ccccggttgc	tacctcttac	1620
ccgtccccgg	ttactacctc	ttatccatcc	ccggccacca	cctcataccc	atcccctgtg	1680
cccacctcct	tctcctctcc	cggctcctcg	acctacccat	cccctgtgca	cagtggcttc	1740
ccctccccgt	cgggtggccac	cacgtactcc	tctgttcccc	ctgctttccc	ggcccaggtc	1800
agcagcttcc	cttcctcagc	tgtcaccaac	tccttcagcg	cctccacagg	gctttcggac	1860
atgacagcaa	ccttttctcc	caggacaatt	gaaatttgct	aaagggaaa	gggaaagaaa	1920

gggaaaaggg agaaaaagaa acacaagaga cttaaaggac aggaggagga gatggccata	1980
ggagaggagg gttcctctta ggtcagatgg aggttctcag agccaagtcc tccctctcta	2040
ctggagtgga aggtctattg gccacaatc ctttctgccc acttcccctt cccaattac	2100
tattcccttt gacttcagct gctgaaaca gccatgtcca agttcttcac ctctatccaa	2160
agaacttgat ttgcatggat ttggataaa tcatttcagt atcatctcca tcatatgcct	2220
gaccccttgc tcccttcaat gctagaaaat cgagttggca aaatgggggt tgggcccctc	2280
agagccctgc cctgcaccct tgtacagtgt ctgtgccatg gatttcggtt ttcttggggt	2340
actcttgatg tgaagataat ttgcatatc tattgtatta ttggagtta ggtcctcact	2400
tgggggaaaa aaaaaaaaaa aagccaagca aaccaatggg gatcctctat ttgtgatga	2460
tgctgtgaca ataagtttga accttttttt ttgaaacagc agtcccagta ttctcagagc	2520
atgtgtcaga gtgtgttcc gttaaccttt ttgtaaatac tgcttgaccg tactctcaca	2580
tgtggcaaaa tatggtttgg ttttctttt ttttttttga aagtgtttt tcttcgtcct	2640
tttggtttaa aaagtttcac gtcttgggtc cttttgtgtg atgcccttg ctgatggctt	2700
gacatgtgca attgtgaggg acatgctcac ctctagcctt aaggggggca gggagtgatg	2760
atttggggga ggctttggga gcaaaataag gaagagggct gagctgagct tcggttctcc	2820
agaatgtaag aaaacaaaat ctaaaacaaa atctgaactc tcaaaagtct atttttttaa	2880
ctgaaaatgt aaatttataa atatattcag gagttggaat gttgtagtta cctactgagt	2940
aggcgcgat ttttgtatgt tatgaacatg cagttcatta ttttgtgggt ctattttact	3000
ttgtacttgt gtttgcttaa acaaagtgac tgtttggtt ataaacacat tgaatgcgt	3060
ttattgcca tgggatatgt ggtgtatata cttccaaaaa attaaaacga aaataaagta	3120
gctgcgattg gg	3132

SEQUENCE LISTING



<110> Pinsky, David  
Stern, David  
Yan, Shi-Fang

<120> Methods for Suppressing Early Growth Response-1 Protein (Egr-1) to  
Reduce Vascular Injury in a Subject

<130> 0575/62683

<140> 09/648,389

<141> 2000-08-25

<160> 6

<170> PatentIn version 3.1

<210> 1

<211> 15

<212> DNA

<213> Homo sapiens

<400> 1  
cttggccgct gccat

15

<210> 2

<211> 15

<212> DNA

<213> Homo sapiens

<400> 2  
taccgtcgcc gtgct

15

<210> 3  
 <211> 543  
 <212> PRT  
 <213> Homo sapiens

<400> 3

Met	Ala	Ala	Ala	Lys	Ala	Glu	Met	Gln	Leu	Met	Ser	Pro	Leu	Gln	Ile
1				5					10					15	
Ser	Asp	Pro	Phe	Gly	Ser	Phe	Pro	His	Ser	Pro	Thr	Met	Asp	Asn	Tyr
			20					25					30		
Pro	Lys	Leu	Glu	Glu	Met	Met	Leu	Leu	Ser	Asn	Gly	Ala	Pro	Gln	Phe
	35						40					45			
Leu	Gly	Ala	Ala	Gly	Ala	Pro	Glu	Gly	Ser	Gly	Ser	Asn	Ser	Ser	Ser
	50					55					60				
Ser	Ser	Ser	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Ser	Asn	Ser	Ser
65					70					75					80
Ser	Ser	Ser	Ser	Thr	Phe	Asn	Pro	Gln	Ala	Asp	Thr	Gly	Glu	Gln	Pro
				85					90					95	
Tyr	Glu	His	Leu	Thr	Ala	Glu	Ser	Phe	Pro	Asp	Ile	Ser	Leu	Asn	Asn
			100					105					110		
Glu	Lys	Val	Leu	Val	Glu	Thr	Ser	Tyr	Pro	Ser	Gln	Thr	Thr	Arg	Leu
		115					120					125			
Pro	Pro	Ile	Thr	Tyr	Thr	Gly	Arg	Phe	Ser	Leu	Glu	Pro	Ala	Pro	Asn
	130					135					140				
Ser	Gly	Asn	Thr	Leu	Trp	Pro	Glu	Pro	Leu	Phe	Ser	Leu	Val	Ser	Gly
145					150					155					160
Leu	Val	Ser	Met	Thr	Asn	Pro	Pro	Ala	Ser	Ser	Ser	Ser	Ala	Pro	Ser
				165					170					175	
Pro	Ala	Ala	Ser	Ser	Ala	Ser	Ala	Ser	Gln	Ser	Pro	Pro	Leu	Ser	Cys
			180					185					190		
Ala	Val	Pro	Ser	Asn	Asp	Ser	Ser	Pro	Ile	Tyr	Ser	Ala	Ala	Pro	Thr
		195					200					205			

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala  
210 215 220

Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Ala Tyr  
225 230 235 240

Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu  
245 250 255

Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys  
260 265 270

Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro  
275 280 285

Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu  
290 295 300

Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg  
305 310 315 320

Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg  
325 330 335

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser  
340 345 350

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe  
355 360 365

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr  
370 375 380

Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile  
385 390 395 400

Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys  
405 410 415

Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala  
420 425 430

Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr  
435 440 445

Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr  
450 455 460



Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser  
465 470 475 480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala  
485 490 495

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser  
500 505 510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu  
515 520 525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys  
530 535 540

<210> 4

<211> 6590

<212> DNA

<213> Homo sapiens

<400> 4  
gcgggctggg gctgtggctc acacctggaa tcccagcact ttgggaggcc gaagtgggtg 60  
aatcgcttga gctcaagagt tcaagaccag cctgggcaac acagcgaaac ccctctctac 120  
gaaaatacaa aaaaaaaaaa aaaaaagtaa aagccaggcg tgggtggcagg cacctgtagt 180  
ccaagctact cgagaggagg aggctggagg atcacttgag cctgggaggc ggaggttgca 240  
gtgagctcgc gccactgcac tccaacctgg gtgccagcgt gagaccccg tctcagaaaga 300  
ataaaaacat taataaaaaa atttggtctaa ggtaccctac caggaggagg caaaatggac 360  
attcagacac aaggccatct gcgctgcaac agcctggcct tcttgccctt gcggcaggag 420  
tcctctgaga ggcgcatcac tctgccccca atggacaact ccgtagacag tgggagtgag 480  
ccccccacct cccagcgga cttgagacgg caggctccga gacgaggagg tcttggttca 540  
ttaagttggt ttttataaaa aaacatgttt ggagggggga cagccacaaa gggattaagt 600  
ccaagaaagt taccctctcc cccacctaat cccctgacc ccgacctca gaggctgttg 660  
gggtttacag aggccctcac ctctctcctt ccctctcggt gtcgtcaaac accctccttc 720  
tccacatttc tctttctgct ttctttttaa atccagaaaa aacagtacct cctctggatt 780  
cagagctaga gcaggaggag ccttccttcc cggaatccct gttccctttg ggggagcaac 840  
tgacggttcg tgggggaggg gagggttccc ctttttgttt gacccaagga agactgggga 900  
atattttcct tagacaccac ccacctttt ttctttttcc ccttcacttt gccaggctgg 960

ggttgaggat tgttatcccg gagtttgggc gcttcggaag tgacgggtcc ccggggtttg 1020  
 aaggggagcc cgggttaagc gcctgttcag ttcgtgetca tgcgtcgaag gctcccccg 1080  
 ccttgctccg cgcccagcgc cgcattccggg aggaggagcg aggaggcggc ggaagagccc 1140  
 gcgcggcccg agtccggggc tgggagtga gagggaaacct ccagggggca gcaccgagcc 1200  
 gcaaagcccg tectctcttc gcgcccagcc cggggtcccc agatagccca tagggaagcc 1260  
 cctctttcgg attcccgcag tgtgggcccgg cctccacct ggactggata aaggggggaa 1320  
 agtgaccctt caccacaagg accattatct cctggtgaga acaagaatca ggcctctctt 1380  
 ggggcaatca gcttccccac ttcggtcccc caaagggtgg ctctttgccc gcggggacta 1440  
 gggaacagcc tttcggttcc gggggagcac aggggacccc aggcaccagc agccccatcc 1500  
 caccgacagg tggcagaggc aaggcagctc actgctatac agtggtcccaa gaaccaagtg 1560  
 gccgtgactt cctatcctca atttcccagc gacacccgga aagacaccgt gccatagatc 1620  
 gagggccggg gtcaaggccc cgcctctctt gggcgccccc tgcccaggcg ggcccagccg 1680  
 ctctccccc gcactcccg ttcgctctca cggtcctga ggtgggcggg cgggcctgga 1740  
 tgacagcgat agaaccoccg cccgactcgc cctcgccccc gctctgggtc tgggcttccc 1800  
 cagcctagtt cagcctagg agccgctga gcagccgcgc ccagcgccac acgccacgag 1860  
 ccctccccgc ctgggcgtcc ccggtatccg cgagcgctcg ggctcccggc ttggaaccag 1920  
 ggaggaggga gggagcgagg gagcaaccag ctcggaacgg aatgcatata gagcaggaag 1980  
 gatccccgc cggaacaacc cttatttggg cagcacctta tttggagtgg cccgatatgg 2040  
 cccggcgctt ccggctctgg gaggagggaa gaaggcgag ggaggggcaa cgcgggaact 2100  
 ccggagctgc cgggtcccga ggccccggcg gcggctagag ctctaggctt ccccgaagct 2160  
 gggcgccctg gatgcgggcc gggccgggcc ctagggtgca ggatggaggt gccgggcgct 2220  
 gtcggatggg gggcttcacg tcactccggg tctcccccg gtctgccat attagggtt 2280  
 ctgcttccca tatatgcat gtacgtcag acggaggcg acccgtgccg ttccagaccc 2340  
 ttcaaataga ggcgatccg gggagtccg agagatccag ccgcagaact tggggagccc 2400  
 ccgcgccat ccgcgccgc agccagctt cgcgcgcga ggaccggccc ctgcccagc 2460  
 ctccgcagcc gcggcgctc caagcccgcc cgcgcccagg gcgagtcggg gtccgcgct 2520  
 gcacgcttct cagtgttccc cgcgccccgc atgtaaccg gccaggcccc cgcaacggtg 2580  
 tcccctgcag ctccagcccc gggtgcacc ccccgcccc gacaccagct ctccagcctg 2640  
 ctgctccagg atggccgcg ccaaggccga gatgcagct atgtccccgc tgcagatctc 2700  
 tgaccgctt ggatcctttc ctactcgcc caccatggac aactacccta agctggagga 2760  
 gatgatctg ctgagcaacg gggctcccca gttcctcggc gccgcgggg cccagaggg 2820  
 cagcggcagc aacagcagca gcagcagcag cgggggcggg ggaggcgcg ggggcggcag 2880

caacagcagc agcagcagca gcaccttcaa ccctcaggcg gacacgggcg agcagcccta	2940
cgagcacctg accgcaggta agcagtggcc tacgccgagg gggaaccctt tcgccaccat	3000
cctggcgctcc tgccttcac cgcaggagtg ctctggatc ttagaatgag agccggggtt	3060
ccctttcatt cctcgcaccc ccagagtcac gtgttagagg gatgccaaagg aacccacac	3120
agccaccccc ctgccctcat ccctagcgga ggcagagga ccgagctttt gttttgatg	3180
gagagctctg gagctgcgtg ggtgggtgga gggggagggc ttgttttgat gagcggggct	3240
gcgccccac ctccagtaag acttgcttg ccttgcttgc cgctgtccc caaggaagga	3300
ccgtgaccc tggccgtgga tgtcccgga gcccggttt gggggcgcg actagccgcg	3360
gccatggggg tgctggcggg aatccctcgc ccgcacagcc gccgctgcgg agcgtgcga	3420
gctgcagtgg agggggattc tccgtatttg cgtcactgtt gttgaaatgg gctctgccac	3480
tggtgcgggt ccaggaacat tgcaatgtgc tgctatcaat tattaactac ctccggagtc	3540
aatggtagcc ggcccggtct cttgcctggc agctcgggtc gtcctcgtcc tccagtgatt	3600
gtttccagt aaccaggcct ccgcttctc tctctcctgc cagagtcttt tccctgacac	3660
tctctgaaca acgagaaggt gctggtggag accagttacc ccagccaaac cactcgactg	3720
cccccatca cctatactgg ccgcttttcc ctggagcctg caccacaacag tggcaacacc	3780
ttgtggccc agccctctt cagcttggtc agtggcctag tgagcatgac caaccaccg	3840
gcctcctcgt cctcagcacc atctccagcg gcctcctccg cctccgcctc ccagagccca	3900
cccctgagct gcgcagtgcc atccaacgac agcagtccca ttactcagc ggcaaccacc	3960
ttccccacgc cgaacactga cattttccct gagccacaaa gccaggcctt cccgggctcg	4020
gcagggacag cgctccagta ccgcctcct gcctaccctg ccgccaaggg tggcttccag	4080
gttcccatga tccccgacta cctgtttcca cagcagcagg gggatctggg cctgggcacc	4140
ccagaccaga agcccttcca gggcctggag agccgcacc agcagccttc gctaaccct	4200
ctgtctacta ttaaggcctt tgccactcag tcgggctccc aggacctgaa ggccctcaat	4260
accagctacc agtccagct catcaaacc agccgcatgc gcaagtatcc caaccggccc	4320
agcaagacgc cccccacga acgccttac gcttgcccag tggagtcttg tgatcgccgc	4380
ttctcccgct ccgacgagct caccgcac atccgcatcc acacaggcca gaagcccttc	4440
cagtgcgcga tctgcatgc caacttcagc cgcagcgacc acctcaccac ccacatccgc	4500
accacacag gcgaaaagcc cttgcctgc gacatctgtg gaagaaagt tgccaggagc	4560
gatgaacgca agaggcatac caagatccac ttgcggcaga aggacaagaa agcagacaaa	4620
agtgttgtgg cctcttcggc cacctcctct ctctcttct acccgctccc ggttgctacc	4680
tcttaccgct ccccggttac tacctcttat ccatccccgg ccaccacctc atacccatcc	4740
cctgtgccc cctccttctc ctctcccggc tctcgcacct acccatcccc tgtgcacagt	4800

ggcttccctt ccccgctcgggt ggccaccacg tactcctctg ttccccctgc tttcccggcc 4860  
 caggtcagca gcttcccttc ctacagctgtc accaactcct tcagcgcttc cacagggctt 4920  
 tcggacatga cagcaacctt ttctcccagg acaattgaaa ttgctaaaag ggaaagggga 4980  
 aagaaagggg aaagggagaa aaagaaacac aagagactta aaggacagga ggaggagatg 5040  
 gccataggag aggaggggttc ctcttaggtc agatggaggt tctcagagcc aagtcctccc 5100  
 tctctactgg agtggaaggt ctattggcca acaatccttt ctgcccactt ccccttcccc 5160  
 aattactatt ccctttgact tcagctgcct gaaacagcca tgtccaagtt cttcacctct 5220  
 atccaaagaa cttgatttgc atggattttg gataaatcat ttcagtatca tctccatcat 5280  
 atgcctgacc ccttgctccc ttcaatgcta gaaaatcgag ttggcaaaat ggggtttggg 5340  
 cccctcagag ccctgcccctg cacccttgta cagtgtctgt gccatggatt tcgtttttct 5400  
 tggggctactc ttgatgtgaa gataatttgc atattctatt gtattatttg gagttaggtc 5460  
 ctcacttggg ggaaaaaaaa aaaaaaaagc caagcaaacc aatgggtgatc ctctattttg 5520  
 tgatgatgct gtgacaataa gtttgaacct ttttttttga aacagcagtc ccagtattct 5580  
 cagagcatgt gtcagagtgt tgttccgtta acctttttgt aaatactgct tgaccgtact 5640  
 ctcacatgtg gcaaaatatg gtttggtttt tctttttttt ttttgaaagt gttttttctt 5700  
 cgctccttttg gtttaaaaag tttcacgtct tgggtgccttt tgtgtgatgc cccttgctga 5760  
 tggcttgaca tgtgcaattg tgagggacat gtcacctct agccttaagg ggggcagggg 5820  
 gtgatgattt gggggaggct ttgggagcaa aataaggaag agggctgagc tgagcttcgg 5880  
 ttctccagaa tgtaagaaaa caaaatctaa aacaaaatct gaactctcaa aagtctattt 5940  
 ttttaactga aaatgtaaat ttataaatat attcaggagt tggaatgttg tagttaccta 6000  
 ctgagtaggc ggcgattttt gtatgttatg aacatgcagt tcattatttt gtggttctat 6060  
 tttactttgt acttgtgttt gcttaaacia agtgactgtt tggcttataa acacattgaa 6120  
 tgcgctttat tgcccatggg atatgtgggt tatatccttc caaaaaatta aaacgaaaat 6180  
 aaagtagctg cgattgggta tgtgtttcct ggggttagggg aaggactctg ccctattgag 6240  
 ggctgtgagg ttttctgaag acttggcctt tagagataca aggatcctcc agccagagtc 6300  
 aggccactg tgtgaaactg gagttcgta tttatgagga ctgagtatgg gtcttcaaatt 6360  
 agggctctcg tctatccacc caggctggag tgcagtagtg taatcacagt tcactgcagc 6420  
 tttggtgtct caggetcaag tgatcctccc acctcagcct cctgagtagc tgggactata 6480  
 ggcacgtgcc accacactcg gttaatgttt atagagacag ggttttgcca tgttgcccag 6540  
 gctggagttc ttcttgataa tgggcctgtt cctcttcagt ctgttgggtg 6590

<210> 5

<211> 543

<212> PRT

<213> Homo sapiens

<400> 5

Met Ala Ala Ala Lys Ala Glu Met Gln Leu Met Ser Pro Leu Gln Ile  
1 5 10 15

Ser Asp Pro Phe Gly Ser Phe Pro His Ser Pro Thr Met Asp Asn Tyr  
20 25 30

Pro Lys Leu Glu Glu Met Met Leu Leu Ser Asn Gly Ala Pro Gln Phe  
35 40 45

Leu Gly Ala Ala Gly Ala Pro Glu Gly Ser Gly Ser Asn Ser Ser Ser  
50 55 60

Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Gly Gly Ser Asn Ser Ser  
65 70 75 80

Ser Ser Ser Ser Thr Phe Asn Pro Gln Ala Asp Thr Gly Glu Gln Pro  
85 90 95

Tyr Glu His Leu Thr Ala Glu Ser Phe Pro Asp Ile Ser Leu Asn Asn  
100 105 110

Glu Lys Val Leu Val Glu Thr Ser Tyr Pro Ser Gln Thr Thr Arg Leu  
115 120 125

Pro Pro Ile Thr Tyr Thr Gly Arg Phe Ser Leu Glu Pro Ala Pro Asn  
130 135 140

Ser Gly Asn Thr Leu Trp Pro Glu Pro Leu Phe Ser Leu Val Ser Gly  
145 150 155 160

Leu Val Ser Met Thr Asn Pro Pro Ala Ser Ser Ser Ser Ala Pro Ser  
165 170 175

Pro Ala Ala Ser Ser Ala Ser Ala Ser Gln Ser Pro Pro Leu Ser Cys  
180 185 190

Ala Val Pro Ser Asn Asp Ser Ser Pro Ile Tyr Ser Ala Ala Pro Thr  
195 200 205

Phe Pro Thr Pro Asn Thr Asp Ile Phe Pro Glu Pro Gln Ser Gln Ala

210                      215                      220  
 Phe Pro Gly Ser Ala Gly Thr Ala Leu Gln Tyr Pro Pro Pro Ala Tyr  
 225                      230                      235                      240  
 Pro Ala Ala Lys Gly Gly Phe Gln Val Pro Met Ile Pro Asp Tyr Leu  
                     245                      250                      255  
 Phe Pro Gln Gln Gln Gly Asp Leu Gly Leu Gly Thr Pro Asp Gln Lys  
                     260                      265                      270  
 Pro Phe Gln Gly Leu Glu Ser Arg Thr Gln Gln Pro Ser Leu Thr Pro  
                     275                      280                      285  
 Leu Ser Thr Ile Lys Ala Phe Ala Thr Gln Ser Gly Ser Gln Asp Leu  
                     290                      295                      300  
 Lys Ala Leu Asn Thr Ser Tyr Gln Ser Gln Leu Ile Lys Pro Ser Arg  
 305                      310                      315                      320  
 Met Arg Lys Tyr Pro Asn Arg Pro Ser Lys Thr Pro Pro His Glu Arg  
                     325                      330                      335  
 Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser  
                     340                      345                      350  
 Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe  
                     355                      360                      365  
 Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr  
                     370                      375                      380  
 Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys Asp Ile  
 385                      390                      395                      400  
 Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His Thr Lys  
                     405                      410                      415  
 Ile His Leu Arg Gln Lys Asp Lys Lys Ala Asp Lys Ser Val Val Ala  
                     420                      425                      430  
 Ser Ser Ala Thr Ser Ser Leu Ser Ser Tyr Pro Ser Pro Val Ala Thr  
                     435                      440                      445  
 Ser Tyr Pro Ser Pro Val Thr Thr Ser Tyr Pro Ser Pro Ala Thr Thr  
                     450                      455                      460

Ser Tyr Pro Ser Pro Val Pro Thr Ser Phe Ser Ser Pro Gly Ser Ser  
465 470 475 480

Thr Tyr Pro Ser Pro Val His Ser Gly Phe Pro Ser Pro Ser Val Ala  
485 490 495

Thr Thr Tyr Ser Ser Val Pro Pro Ala Phe Pro Ala Gln Val Ser Ser  
500 505 510

Phe Pro Ser Ser Ala Val Thr Asn Ser Phe Ser Ala Ser Thr Gly Leu  
515 520 525

Ser Asp Met Thr Ala Thr Phe Ser Pro Arg Thr Ile Glu Ile Cys  
530 535 540

<210> 6

<211> 3132

<212> DNA

<213> Homo sapiens

<400> 6  
ccgcagaact tggggagccg ccgccgccat ccgccgccgc agccagcttc cgccgccgca 60  
ggaccggccc ctgccccagc ctccgcagcc gcggcgcgtc cagccccgcc cgcccccagg 120  
gcgagtcggg gtcgccgcct gcacgtttct cagtgttccc cgcccccgc atgtaaccgc 180  
gccaggcccc cgcaacggtg tcccctgcag ctccagcccc gggctgcacc cccccgccc 240  
gacaccagct ctccagcctg ctgcctcagg atggccgcgg ccaaggccga gatgcagctg 300  
atgtccccgc tgcagatctc tgaccggttc ggatcctttc ctactcgc caccatggac 360  
aactacccta agctggagga gatgatgctg ctgagcaacg gggctcccca gttcctcgcc 420  
gccgccgggg ccccagaggg cagcggcagc aacagcagca gcagcagcag cgggggcggg 480  
ggaggcggcg ggggcggcag caacagcagc agcagcagca gcaccttcaa ccctcaggcg 540  
gacacgggcg agcagcccta cgagcacctg accgcagagt cttttcctga catctctctg 600  
aacaacgaga aggtgctggt ggagaccagt taccagcc aaaccactcg actgcccccc 660  
atcacctata ctggccgctt ttccctggag cctgcaccca acagtggcaa caccttggtg 720  
cccagagccc tcttcagctt ggtcagtggt ctagtgagca tgaccaaccc accggcctcc 780  
tcgtcctcag caccatctcc agcggcctcc tccgcctccg cctcccagag cccaccctg 840  
agctgcgcag tgccatccaa cgacagcagt ccattttact cagcggcacc caccttcccc 900  
acgccgaaca ctgacatttt ccctgagcca caaagccagg ccttcccggg ctcggcaggg 960

acagegctcc agtaccgcgc tctgcctac cctgcccga aggggtggctt ccaggttccc 1020  
atgatccccg actacctgtt tccacagcag caggggggatc tgggcctggg caccacagac 1080  
cagaagccct tccagggcct ggagagccgc acccagcagc cttcgctaac ccctctgtct 1140  
actattaagg cctttgccac tcagtcgggc tcccaggacc tgaaggccct caataccagc 1200  
taccagtccc agctcatcaa acccagccgc atgcgcaagt atcccaaccg gccagcaag 1260  
acgccccccc acgaacgccc ttacgcttgc ccagtggagt cctgtgatcg ccgcttctcc 1320  
cgctccgacg agctcaccg ccacatccgc atccacacag gccagaagcc cttccagtgc 1380  
cgcatctgca tgcgcaactt cagccgcagc gaccacctca ccaccacat ccgcaccac 1440  
acaggcgaaa agcccttcgc ctgcgacatc tgtggaagaa agtttgccag gagcgatgaa 1500  
cgcaagaggc ataccaagat ccacttgccg cagaaggaca agaaagcaga caaaagtgtt 1560  
gtggcctctt cggccacctc ctctctctct tctaccctt ccccggttgc tacctcttac 1620  
ccgtccccgg ttactacctc ttatccatcc ccggccacca cctcataccc atcccctgtg 1680  
cccacctct tctctctcc cggtcctcg acctaccat cccctgtgca cagtggcttc 1740  
ccctccccgt cgggtggccac cacgtactcc tctgttcccc ctgctttccc ggcccaggtc 1800  
agcagcttcc cttctcagc tgtcaccaac tccttcagcg cctccacagg gctttcggac 1860  
atgacagcaa ctttttctcc caggacaatt gaaatttgct aaagggaag gggaaagaaa 1920  
gggaaaagg agaaaaagaa acacaagaga cttaaaggac aggaggagga gatggccata 1980  
ggagaggagg gtctctctta ggtcagatgg aggttctcag agccaagtcc tccctctcta 2040  
ctggagtgga aggtctattg gccacaatc ctttctgccc acttcccctt cccaattac 2100  
tattcccttt gacttcagct gcctgaaaca gccatgtcca agttcttcac ctctatccaa 2160  
agaacttgat ttgcatggat tttggataaa tcatttcagt atcatctcca tcatatgcct 2220  
gacccttgc tcccttcaat gctagaaaat cgagttggca aaatgggggt tgggcccctc 2280  
agagccctgc cctgcaccct tgtacagtgt ctgtgccatg gatttcgttt ttcttggggt 2340  
actcttgatg tgaagataat ttgcatatc tattgtatta tttggagtta ggtcctcact 2400  
tgggggaaaa aaaaaaaaaa aagccaagca aaccaatggt gatcctctat tttgtgatga 2460  
tgctgtgaca ataagtttga acctttttt ttgaaacagc agtcccagta ttctcagagc 2520  
atgtgtcaga gtgttgttcc gttaaccttt ttgtaaatac tgcttgaccg tactctcaca 2580  
tgtggcaaaa tatggtttgg ttttctttt ttttttttga aagtgtttt tcttgcctct 2640  
tttggtttta aaagtttcac gtcttgggtgc cttttgtgtg atgccccttg ctgatggctt 2700  
gacatgtgca attgtgaggg acatgtcac ctctagcctt aaggggggca gggagtgatg 2760  
atttggggga ggctttggga gcaaaataag gaagagggt gagctgagct tcggttctcc 2820  
agaatgtaag aaaacaaaat ctaaaacaaa atctgaactc tcaaaagtct atttttttta 2880



ctgaaaatgt aaatttataa atatattcag gagttggaat gttgtagtta cctactgagt 2940  
aggcggcgat ttttgtatgt tatgaacatg cagttcatta ttttgtgggt ctattttact 3000  
ttgtacttgt gtttgcttaa acaaagtgac tgtttggtt ataaacacat tgaatgcgct 3060  
ttattgccca tgggatatgt ggtgtatata cttccaaaaa attaaaacga aaataaagta 3120  
gctgcgattg gg 3132